MEMORANDUM OF UNDERSTANDING
BETWEEN the
U.S. FISH AND WILDLIFE SERVICE
and the
STATE OF MONTANA

WHEREAS**,** the U.S. Fish and Wildlife Service ("Service") is the primary Federal agency charged with fish and wildlife resource protection and restoration, and with the responsibility for administration of the lands and waters of the National Wildlife Refuge System; pursuant to the Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), as amended, the Migratory Bird Conservation Act (16 U.S.C. 715a-715r), and the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee) as amended by the National Wildlife Refuge System Improvement Act of 1997 (P.L. 105-57);

WHEREAS, the Montana Reserved Water Rights Compact Commission ("Commission"), pursuant to §85-2-703, MCA, is authorized to negotiate settlement of water rights claims filed by the United States for areas in which the United States claims reserved waters within the State of Montana;

WHEREAS, the United States, acting through the Service and the State of Montana, acting through the Commission (collectively "the Parties") have agreed to a water rights Compact ("Compact"), codified at §85-20-1301, MCA, and approved by the United States on [date], settling the Service's federal reserved water rights claims for the Bowdoin National Wildlife Refuge ("Bowdoin" or "the Refuge") and agree that this Memorandum of Understanding ("MOU") is incorporated into that Compact and attached thereto as Appendix 3;

WHEREAS, the Parties recognize a concern that Bowdoin suffers from a salinity problem that threatens the viability of the Refuge and poses risks to the off-Refuge community;

WHEREAS, the Parties agree that the exercise of the Service's rights to water recognized in the Compact can ameliorate this salinity problem but also that, improperly utilized, these rights can exacerbate the problem instead;

NOW THEREFORE; the Service and the State hereto agree as follows:

1. Capitalized terms in this MOU have the meaning assigned to them in the Compact unless specifically defined herein;

2. The Compact recognizes federal reserved water rights for the Bowdoin National Wildlife Refuge from three sources: surface flows from Beaver Creek in the amount of 24,714 Acre-Feet per Year; surface flows that drain naturally into the Refuge (predominantly from Black Coulee); and ground water in the amount of 223 Acre-Feet per Year extracted from well(s) located within the boundaries of the Refuge and 5,300 Acre-Feet of Deep Ground Water. These reserved water

rights are subordinated to all water rights existing under State law at the time the Compact was ratified, as well as to all future development excepted from State permitting law (such as small domestic and stock uses). The Refuge's federal reserved water rights are also conditioned on the execution of this Memorandum of Understanding that establishes restrictions on the use of these water rights to ensure that they do not exacerbate the salt problems that the Refuge experiences.

3. No water will be released into Beaver Creek from Lake Bowdoin or transferred into Dry Lake from Lake Bowdoin, except during major flood events when water can be released without harm to interests downstream. In the event of a major flood event, the Montana Department of Environmental Quality (DEQ), the Montana Department of Natural Resources and Conservation (DNRC), and local irrigation districts (including but not necessarily limited to the Malta Irrigation District and the Glasgow Irrigation District) will be notified. Conductivity measurements will be made by the Service at the outlet of Lake Bowdoin and along Beaver Creek upstream and downstream where the outlet of Lake Bowdoin meets Beaver Creek. Release rates will be determined by Refuge Manager following these notifications, but such releases shall stop immediately at such time as the Service or the DEQ determines that the volume of water in Beaver Creek has decreased to the point that continued discharges from the Refuge pose a risk to the water quality or soils of downstream water users.

4. Dry Lake will not be used as a sump for disposal of saline water from Lake Bowdoin, and no water will be released from Lake Bowdoin or into Dry Lake except during major flood events, and then under the same conditions and for the same duration as set forth in numbered paragraph 3 of this MOU. However, Dry Lake may be operated as a wetland as long as it receives its water from sources other than Lake Bowdoin that are not high in accumulated salts (e.g. Lakeside unit, Beaver Creek). The Service may, at its discretion, release water from Dry Lake into Beaver Creek. Such releases shall stop immediately at such time as the Service or the DEQ determines that the volume of water in Beaver Creek has decreased to the point that continued discharges from the Refuge pose a risk to the water quality or soils of downstream water users.

5. The overriding target of the salt management program is to improve the water quality on the Refuge over time and provide a reliable method for maintaining that Lake's salt balance. To reverse the trend of salt accumulation in Lake Bowdoin, the Service intends to install a deep well injection system that will remove salts from Lake Bowdoin at an average annual rate that is equal to or greater than the annual rate of salt input, currently approximately 7,000 tons per year. Until such time as the well (or a suitable alternative) is installed and becomes operational, and the accumulated salt in Lake Bowdoin is reduced to 80,000 tons or less (equivalent to 7,000 mg/l when Lake Bowdoin is at an elevation of 2209 feet), water deliveries from manmade canals will be limited to periods when Lake Bowdoin is at an elevation under 2210' in order to reduce the risk of spilling saline water downstream. The parties recognize that flood events and natural drainage into Lake Bowdoin may elevate the water surface elevation above the 2210' elevation.

6. Upon execution of this MOU, the Service will implement and maintain a monitoring program to characterize the inflows, outflows, and storage of water (surface and groundwater). The Service will also implement and maintain a water quality monitoring program which will characterize the inflows, outflows, and storage of constituents (e.g. salts and metals) that can be used to assist in evaluating potential release impacts in addition to evaluating potential harmful impacts on refuge wildlife. Monitoring methods and detection limits will be consistent with standard methods required by the DEQ for assessing water bodies. The list of sample parameters will include but not necessarily be limited to: Arsenic, Uranium, Selenium, Mercury, Iron, Lead, Copper, Zinc, Cadmium and Aluminum. Sample methods and detection limits must be consistent with standard methods required by DEQ for assessing water bodies. These parameters will be monitored along Beaver Creek by the State of Montana.

7. The Service will periodically update the salt balance model as more data is collected, and will use the model (or any equivalent model mutually agreed to by the Service and the State) to inform future water management decisions.

8. Upon finalization of the Comprehensive Conservation Plan (CCP), the Service will begin implementation of the strategies outlined in that CCP to reduce delivery of salt to the Refuge. The opportunities to reduce the salt inputs will require working closely with surrounding landowners and organizations focused on salinity issues in Montana, in particular the Montana Salinity Control Association. Strategies to reduce the delivery of salt include the Refuge:

a. Working with the Montana Salinity Control Association and others to develop a plan that reduces salt inputs in the watershed;
b. Implementing this plan by working voluntarily with landowners and the local community, the Phillips Conservation District, the Natural Resources Conservation Service, Montana Partners for Fish and Wildlife, and the DNRC;
c. Working with the Malta Irrigation District and landowners to improve irrigation water management to reduce salt leaching into shallow ground water that eventually re-surfaces when ground water evaporates;
d. Working with the Malta Irrigation District to line portions of canal known to leak and cause salt accumulation on the Refuge;
e. Working with the Montana Bureau of Mines & Geology to determine how deep the injection well(s) should be drilled to avoid potable ground water and where the best placement location(s) for any such well;
f. Continuing to implement the strategies outlined by the U.S. Fish and Wildlife Service Partners for Fish and Wildlife Program. The 2007 and 2012 Montana Step-down Strategic Plans specifically identify the Milk River Basin as a focus area for voluntary private lands habitat restoration and enhancement projects. The Step-down plans identified mallards and greater sage grouse as focal species for working with private landowners.

g. Continuing to participate in cost share agreements and grants , which promote partnerships between the Service and other private organizations, state organizations and individuals. Cost share agreements typically involve projects on Refuge land and will match contributions from a non-Federal Government source.

9. This MOU may be modified at any time by the mutual consent of the Parties.

10. This MOU remains in effect until modified or terminated by the mutual agreement of the Parties.

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Department of Interior Date

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Assistant Attorney General for DOJ's Environment and Natural Resources Division?

Department of Justice Date

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Brian Schweitzer, Governor, State of Montana Date